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(54) **GAS SEPARATING MEMBRANE**

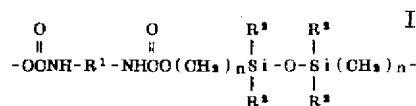
(57) Abstract:

PURPOSE: To obtain a gas permeable membrane of superior selective permeability for oxygen, chemical resistance and mechanical strength by introducing disiloxane structure and polyether structure into the main chain of polyurethane.

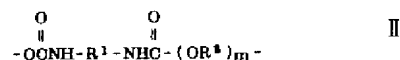
CONSTITUTION: A dimethyl sulfoxide soln. of bis(hydroxyethyl)tetramethyl disiloxane and polyethylene glycol of 1,000 average mol.wt. is added to a methyl isobutyl ketone soln. of diphenylmethane diisocyanate and the mixed soln. is heated under stirring and is allowed to react for 5hr at 100°C, whereby an extremely viscous soln. is obtd. Isopropyl alcohol is added to this soln. and these are allowed to react, whereby the terminals of the polymer are sealed. This polymer soln. is cast in a tin-plated plate and is dried in a hot air dryer and a vacuum dryer, after which the tin is melted with mercury, whereby a polymer membrane of 90μ thickness is obtd. This membrane consists of the poly(urethane/disiloxane/ether) having the

repetitive units expressed by the general formula I and the repetitive units expressed by the general formula II, and the coefft. of permeation for oxygen of this film is 4.0×10^{-10} cm²/sec. cmHg and the coefft. of sepn. for nitrogen is 5.6.

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(但し、 R^1 は2価の有機基、 R^2 はそれぞれ独立に1価のアルキル基又は芳香族基、 n は1～4の整数を示す。)



(但し、 R^1 は前記と同じであり、 R^2 は2価の脂肪族基、 m は5～500の数を示す。)